

CLAIMS:

1. A projection type video image display device comprising: a light source (1) for emitting a white light luminous flux in one direction, modulating means comprising at least one light valve (3R, 3G, 3B) for modulating light contained in said luminous flux and producing a video image, and projection optical means (5) for projecting said modulated luminous flux on a screen, wherein at least one dichroic filter (10, 10a, 10b, 10c) having characteristics for selectively passing and selectively reflecting any one of the red, blue or green light is arranged at least partially insertable into and retrievable from the optical path of said white light luminous flux.
2. The projection type video image display device of claim 1, further comprising: color light-separating means (2a, 2b) for separating the white light from said light source into three color lights of red, blue and green light, said modulating means comprising light valves (3R, 3G, 3B) for modulating lights contained in luminous fluxes from said color light-separating means (2a, 2b) and producing a video image, color light-combining means (4) for combining the modulated luminous fluxes after being modulated by said modulating means, said projection optical means (5) for projecting a combined luminous flux being obtained by said color light combining means (4) on said screen.
3. The projection type video image display device of claim 1, further comprising integrator optics (11) arranged in the optical path of said white light luminous flux wherein said filter or filters (10, 10a, 10b, 10c) are arranged in the proximity of said integrator optics (11).
4. The projection type video image display device of claim 1, wherein one filter (10) is provided for selectively passing and selectively reflecting any one of the red, blue and green light, respectively.
5. The projection type video image display device of claim 1, wherein each filter is comprised of at least two members (10a, 10b) arranged to be simultaneously insertable into

and retrievable from the optical path of said white light luminous flux from different sides thereof.

6. The projection type video image display device of claim 1, wherein each filter
5 (10c) is arranged to be fully insertable into the optical path of said white light luminous flux
and each filter (10c) comprises a central white light transmittant area (10c1) surrounded by
an area (10c2) reflecting any one of the red, blue or green light or any combination of two or
more of these color lights.

10 7. The projection type video image display device of claim 1, wherein said
modulating means comprises two light valves.

8. The projection type video image display device of claim 1, wherein said
modulating means comprises three light valves.

15 9. The projection type video image display device of claim 1, wherein said
modulating means comprises a transmissive light valve containing a microlens array.

10. The projection type video image display device of claim 1, wherein said
20 modulating means comprises a transmissive light valve containing a microcolor filter pattern.

11. The projection type video image display device of claim 1, wherein said
modulating means comprises a light valve arranged to be time-sequentially illuminated with
lights of different colors.

25 12. The projection type video image display device of claim 1, wherein said
modulating means comprises a light valve arranged to be illuminated by colored light-spots
sweeping over said light valve.

30 13. The projection type video image display device of claim 1, wherein said
modulating means comprises a light valve containing an array of optical elements arranged to
focus light of different colors on different pixels of said light valve.

14. A method for color adjustment of a projection type video image display device comprising: a light source for emitting a white light luminous flux in one direction, modulating means comprising at least one light valve for modulating light contained in said luminous flux and produce a video image, and projection optical means for projecting said modulated luminous flux on a screen, wherein said method comprises the step of:

5 providing at least one dichroic filter having characteristics for selectively passing and selectively reflecting any one of the red, blue or green light such that it is at least partially insertable into and retrievable from the optical path of said white light luminous flux.

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15. The method of claim 14, further comprising the steps of providing: color light-separating means for separating the white light from said light source into three color lights of red light, blue light and green light, modulating means comprising light valves for modulating lights contained in luminous fluxes from said color light-separating means and producing a video image, color light-combining means for combining the modulated luminous fluxes after being modulated by said modulating means, and projection-optical means for projecting a combined luminous flux obtained by said color light-combining means on a screen.

20 16. The method of claim 14, further comprising the steps of providing integrator optics in the optical path of said white light luminous flux and arranging said filter or filters in the proximity of said integrator optics.

25 17. The method of claim 14, further comprising the steps of providing one filter for selectively passing and selectively reflecting any one of the red, blue and green light, respectively.

30 18. The method of claim 14, further comprising the steps of providing filters each of which is comprised of at least two members arranged in such a way that they are simultaneously insertable into and retrievable from the optical path of said white light luminous flux from different sides thereof.

19. The method of claim 14, further comprising the steps of providing filters which are arranged to be fully insertable into the optical path of said white light luminous

flux where each filter comprises a central white light transmittant area surrounded by an area reflecting any one of the red, blue or green light or any combination of two or more of these color lights.

5 20. The method of claim 14, further comprising the step of providing modulating means comprising two light valves.

21. The method of claim 14, further comprising the step of providing modulating means comprising three light valves.

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22. The method of claim 14, further comprising the step of providing modulating means comprising a transmissive light valve containing a microlens array.

15 23. The method of claim 14, further comprising the step of providing modulating means comprising a transmissive light valve containing a microcolor filter pattern.

24. The method of claim 14, further comprising the step of providing means for time-sequentially illuminating said light valve with lights of different colors.

20 25. The method of claim 14, further comprising the step of providing means for illuminating said light valve by colored light-spots sweeping over said light valve.

25 26. The method of claim 14, further comprising the step of providing modulating means comprising a light valve containing an array of optical elements arranged to focus light of different colors on different pixels of said light valve.